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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HIROTAKA ISHII

040281-0118

8146

7590

09/28/2004

FOLEY & LARDNER  
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EXAMINER

KIBLER, VIRGINIA M

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/450,757

Applicant(s)

ISHII ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 3,5,10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/2004 has been entered.

### ***Response to Amendment***

2. The amendment received on 6/30/2004 has been entered. Claims 1, 3, 5, and 7-10 remain pending.

### ***Claim Objections***

3. Claims 3, 5, and 10 are objected to because of the following informalities: "unit , and" should be changed to "unit, and" in claim 3, line 5 and in claim 5, line 6; "data base" should be changed to "database" in claim 10, line 8. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1, 3, 5, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said input fingerprint data" in lines 5, 23, and 25-26. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "said input fingerprint data" in lines 7 and 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said input fingerprint data" in lines 7 and 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "said input fingerprint data" in lines 7 and 10. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 5, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiMaria et al. (5,995,014) in view of Jain et al. (6,185,318) in further view of Itoh et al. (5,594,646).

Regarding claim 1, DiMaria et al. ("DiMaria") discloses a fingerprint reader unit 14 (Figure 4) to read a fingerprint (Figure 5A, step S6) to be detected for outputting a

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fingerprint data (Col. 4, lines 45-51); an image data processing unit to process the fingerprint data (Figure 5A, step S7) received from the said fingerprint reader (Col. 4, lines 45-51, 57-60); a database unit 30 to record a fingerprint database provided in advance (Col. 4, lines 60-63); and a fingerprint comparing unit 20 that identifies the fingerprint data by comparing (Figure 5A, step S8) with fingerprint data stored in said fingerprint database recorded in said database unit (Col. 4, lines 45-63).

DiMaria further discloses a user recording unit (Col. 4, lines 64-67) to record the fingerprint data with the time of attempted access wherein the fingerprint data is the data received from the fingerprint reader unit, thereby temporally recording fingerprint data (Col. 4, lines 64-67, Col. 5, lines 1-4). The fingerprint data is automatically sent to the user recording unit for storing only when the fingerprint unit does not identify the fingerprint data (Figure 5A, step S8B), thereby ignoring the fingerprint data when the fingerprint comparing unit identifies the fingerprint (Col. 5, lines 5-20). DiMaria does not expressly discuss a temporary recording unit. The Examiner takes Official Notice that including a temporary recording unit to record a temporary fingerprint data in a fingerprint identification device is well known. It would have been obvious to one of ordinary skill in the art to have modified the storing of the input fingerprint disclosed by DiMaria to include a temporary recording unit in order to minimize the storage requirements. Furthermore, DiMaria performs the same function of temporally recording the fingerprint data received from the fingerprint reader unit automatically only when the fingerprint comparing unit does not identify the input fingerprint and ignores the input fingerprint data when the fingerprint comparing unit identifies the input fingerprint (Col. 4, lines 64-67, Col. 5, lines 1-20).

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DiMaria discloses an image data processing unit to process the fingerprint data (Figure 5A, step S7) received from the said fingerprint reader (Col. 4, lines 45-51, 57-60) and a fingerprint comparing unit 20 that identifies the fingerprint data by comparing (Figure 5A, step S8) with fingerprint data stored in said fingerprint database recorded in said database unit (Col. 4, lines 45-63), but does not appear to recognize correcting or compressing the input fingerprint data, a feature extraction unit to extract image features out of said corrected or compressed input fingerprint data received from the image data processing unit, or a fingerprint comparing unit that identifies the extracted image features received from the feature extraction unit. However, Jain et al. ("Jain") teaches that it is known to correct 305 the input fingerprint data and to extract image features 320, 335 out of said corrected input fingerprint data (Figure 3A). Jain further discloses a fingerprint comparing unit that identifies said extracted image features received from said feature extraction unit by comparing with fingerprint data stored in a fingerprint database (Col. 2, lines 60-67, Col. 3, lines 1-25). DiMaria and Jain are combinable because they are from the same field of endeavor of fingerprint identification. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the image data processing disclosed by DiMaria to include correcting the input fingerprint data. The motivation for doing so would have been because it is often not desirable to directly use the input fingerprint image for feature extraction. The fingerprint image might need an enhancement or preprocessing before one could extract features (Col. 2, lines 20-24). Furthermore, it would have been obvious to one of ordinary skill in the art to have modified the fingerprint comparison disclosed by DiMaria to include extracting image features out of said corrected input fingerprint data and

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comparing based on the extracted image features. The motivation for doing so would have been because it is well known and routinely utilized in the art of fingerprint identification.

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DiMaria discloses temporally recording the fingerprint data received from the fingerprint reader unit automatically only when the fingerprint comparing unit does not identify the input fingerprint and ignores the input fingerprint data when the fingerprint comparing unit identifies the input fingerprint (Col. 4, lines 64-67, Col. 5, lines 1-20), thereby creating a history including time and fingerprint data of each fingerprint not identified by the fingerprint identification device. DiMaria does not disclose the intended use of narrowing down a location of malfunction in the fingerprint identification device. However, Itoh et al. ("Itoh") teaches that it is well known to temporally record the details of the malfunction of a device and use the history to facilitate in finding malfunction causation and solution (Col. 3, lines 44-55). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the fingerprint identification device recording history disclosed by DiMaria and Jain to include using the recording history to narrow down a location of malfunction in the device as taught by Itoh. The motivation for doing so would have been because it is well known in the art finding the location of malfunction in the device would improve the accuracy and reliability. Therefore, it would have been obvious to combine DiMaria with Jain and Itoh to obtain the invention as specified in claim 1.

Regarding claim 3, the arguments analogous to those presented above for claim 1 are applicable to claim 3. DiMaria discloses the user recording unit records the input

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fingerprint transmitted from the fingerprint reader unit, and the transmitted input fingerprint includes a raw data of the input fingerprint (Col. 4, lines 52-63).

Regarding claims 5 and 7, the arguments analogous to those presented above for claim 1 are applicable to claims 5 and 7. Jain teaches that it is known to include a feature extraction 220 unit to extract a feature count from the input fingerprint (Figure 2). Jain further teaches that it is known to compress attribute or "feature" data (Col. 15, lines 14-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the fingerprint data disclosed by DiMaria to include a feature extraction unit resulting in compact data size, as taught by Jain, because it is well known in the art to extract feature count for authentication or identification purposes and the compact data size provides increased storage capacity.

Regarding claim 9, DiMaria discloses the device is used for access control (Abstract).

Regarding claim 10, DiMaria discloses recording reference fingerprints in advance in a database 30 (Col. 4, lines 60-63); inputting a fingerprint to be detected (Figure 5A, step S6); processing said input fingerprint (Figure 5A, step S7); comparing the input fingerprint to be detected to the reference fingerprints in the database (Figure 5A, step S8; Col. 4, lines 45-63); and temporally recording the processed fingerprint data and automatically recording it in a permanent user recording unit only when the input fingerprint to be detected does not match any of the reference fingerprints in the database (Figure 5A, step S8B; Col. 4, lines 64-67, Col. 5, lines 1-20).

DiMaria does not expressly discuss a temporary fingerprint data. The Examiner takes Official Notice that including a temporary recording unit to record a temporary

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fingerprint data in a fingerprint identification device is well known. It would have been obvious to one of ordinary skill in the art to have modified the storing of the input fingerprint disclosed by DiMaria to include a temporary recording unit in order to minimize the storage requirements. Furthermore, DiMaria performs the same function of temporally recording the fingerprint data received from the fingerprint reader unit automatically only when the fingerprint comparing unit does not identify the input fingerprint and ignores the input fingerprint data when the fingerprint comparing unit identifies the input fingerprint (Col. 4, lines 64-67, Col. 5, lines 1-20).

DiMaria discloses processing the fingerprint data (Figure 5A, step S7) input fingerprint (Col. 4, lines 45-51, 57-60) and comparing the input fingerprint with the reference fingerprints in the database (Figure 5A, step S8; Col. 4, lines 45-63), but does not appear to recognize correcting or compressing the input fingerprint data, extracting image features out of said corrected or compressed input fingerprint data, or comparing the extracted image features. However, Jain et al. ("Jain") teaches that it is known to correct 305 the input fingerprint data and to extract image features 320, 335 out of said corrected input fingerprint data (Figure 3A). Jain further discloses comparing the extracted image features to be detected to the reference fingerprints (Col. 2, lines 60-67, Col. 3, lines 1-25). DiMaria and Jain are combinable because they are from the same field of endeavor of fingerprint identification. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the image data processing disclosed by DiMaria to include correcting the input fingerprint data. The motivation for doing so would have been because it is often not desirable to directly use the input fingerprint image for feature extraction. The fingerprint image might need an

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enhancement or preprocessing before one could extract features (Col. 2, lines 20-24).

Furthermore, it would have been obvious to one of ordinary skill in the art to have modified the fingerprint comparison disclosed by DiMaria to include extracting image features out of said corrected input fingerprint data and comparing based on the extracted image features. The motivation for doing so would have been because it is well known and routinely utilized in the art of fingerprint identification.

DiMaria discloses temporally recording the fingerprint data received from the fingerprint reader unit automatically only when the fingerprint comparing unit does not identify the input fingerprint and ignores the input fingerprint data when the fingerprint comparing unit identifies the input fingerprint (Col. 4, lines 64-67, Col. 5, lines 1-20), thereby creating a history including time and fingerprint data of each fingerprint not identified by the fingerprint identification device. DiMaria does not disclose the intended use of narrowing down a location of malfunction in the fingerprint identification device. However, Itoh et al. ("Itoh") teaches that it is well known to temporally record the details of the malfunction of a device and use the history to facilitate in finding malfunction causation and solution (Col. 3, lines 44-55). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the fingerprint identification device recording history disclosed by DiMaria and Jain to include using the recording history to narrow down a location of malfunction in the device as taught by Itoh. The motivation for doing so would have been because it is well known in the art finding the location of malfunction in the device would improve the accuracy and reliability. Therefore, it would have been obvious to combine DiMaria with Jain and Itoh to obtain the invention as specified in claim 10.

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8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over DiMaria et al. (5,995,014) in view of Jain et al. (6,185,318) and Itoh et al. (5,594,646) as applied to claim 1 above, and further in view of DiMaria et al. (5,959,541).

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Regarding claim 8, DiMaria discloses generating a report including time (Col. 4, lines 64-67, Col. 5, lines 1-4), but does not expressly state a date counter. However, DiMaria et al. (5,959,541) teaches that it is known to include a date counter that provides a date record used to generate a recording history (Col. 4, lines 12-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the report disclosed by DiMaria to include a date counter, as taught by DiMaria et al. (5,959,541), because it is well known in the art and provides a more detailed record for access control.

### ***Response to Arguments***

9. Applicant's arguments filed 6/30/2004 have been fully considered but they are not persuasive.

Summary of Applicant's Argument: DiMaria does not disclose the temporary recording unit. The temporary recording unit in the present claims can store either the raw fingerprint data, the corrected or compressed fingerprint data, or the extracted image features depending on how large a memory the user recording unit contains.

Examiner's Response: While DiMaria does not expressly discuss a temporary fingerprint data, it is well known in the art to include a temporary recording unit to record a temporary fingerprint data in a fingerprint identification device. It would have been obvious to one of ordinary skill in the art to have modified the storing of the input

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fingerprint disclosed by DiMaria to include a temporary recording unit in order to minimize the storage requirements. DiMaria performs the same function of temporally recording the fingerprint data received from the fingerprint reader unit and automatically recording it only when the fingerprint comparing unit does not identify the input fingerprint and ignores the input fingerprint data when the fingerprint comparing unit identifies the input fingerprint (Col. 4, lines 64-67, Col. 5, lines 1-20). It is further submitted that the temporary recording unit in claim 1 is limited only to storing "fingerprint data received from said fingerprint reader unit" and does not include the Applicant's argument of being able to store either the raw fingerprint data, the corrected or compressed fingerprint data, or the extracted image features depending on how large a memory the user recording unit contains. The temporary fingerprint data as claimed in claim 10 is limited to "either a raw fingerprint data, corrected or compressed fingerprint data, or said extracted image features" and as such only needs to be able to store one, not all.

***Other Prior Arts Cited***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 4,246,568 to Peterson for personal identification by fingerprint comparison.

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***Contact Information***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Virginia Kibler can be reached on (703) 308-4072. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Virginia Kibler*  
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09/27/04

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PRIMARY EXAMINER

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